Low Carbon Economies and SEA in Asia

Position paper for a double session at IAIA 2010

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17 March 2010

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Abstract

The risks to the Asian region caused by climate change are becoming more apparent and urgent, as CO_2 emissions continue to rise due to the interdependence of economic growth and carbon-based energy. Governments, think tanks and international agencies are proposing a number of concepts and policies aimed at addressing the risks but also harnessing the opportunities. Low-carbon economy (LCE) is fast becoming a central theme even for coal-dependent China, and around the world.

Our aim is to start the debate around three questions:

- What is the relationship between LCE and related concepts/agendas such as green economy and sustainable development?
- How can the objectives of LCE (and related agendas) be linked to the broader remit of SEA-type processes? What can SEA-type processes contribute to the promotion of these agendas?
- How should SEA-type process and methods be adapted in order to achieve this?

On this position paper

This position paper is circulated to all invited participants in order to **open** up the discussion on three issues:

- the relationship between the Low Carbon Economy agenda and the broader themes of combating climate change, promoting a green economy, circular economy, environmentally sustainable development and last but not least protecting ecosystems services;
- the case (pros and cons) of introducing the Low Carbon Economy agenda within the remit of SEA-type evaluations and initial reflections on challenges; and
- the kind of changes and/or additions that need to be considered for SEA-type assessments to promote LCE.

The production and sharing of an introductory paper is meant to establish a common understanding of the basic issues, and to provide a starting point for successful working group discussions on 10th April, 11 am.

Background

The world is re-carbonising.

> 'Between 1990 and 2000 the carbon intensity of the global economy was 0.27 tonnes for every additional $1000 of GDP. In the period 2001 to 2006 that intensity rose to 0.53 tonnes for every additional $1,000 GDP' (Prins *et al.* 2009: 3).[5]

In 2025 the world energy demand will have increased by 50 percent in relation to 2005 (EC 2009). These trends, seen in the context of the global challenge caused by climate change, are concerning, and pose considerable risks to the Asian region where the rapid acceleration of CO_2 emissions is due to interdependence of economic growth and carbon-based energy.[6]

The Asia region has witnessed unprecedented growth over the past few decades, with China as one of the most remarkable drivers of change. However, growth in terms of per capita gross domestic product (GDP) has been accompanied by increasing social and environmental challenges: 'One of every two individuals in the region-or 1.7 billion people-remains poor',[7] while economic inequality and environmental problems have increased, placing economic progress and social stability in jeopardy (ADB 2008:3). Today, concern over environmental degradation and the resulting deterioration of ecosystem services (World Bank 2009), is compounded by the rapidly growing carbon footprint of Asian countries, placing the

[5] During this same period, China's carbon intensity decreased from 5.16 tonnes in 1990 to 2.39 in 2001, but then rose to 2.85 tonnes in 2006 (EIA 2009).

[6] In 2004 the world's average CO2 emissions per capita was 4.5 tonnes; in 1990 China's per capita emissions were at 2.1 tonnes, in 2004 they rose to 3.8 tonnes (UNDP 2007: 14). By comparison, the US per capita figures went from 19.3 t/CO2 to 20.6 t/CO2; in Canada from 15 to 20 t/CO2; in United Kingdom from 10 to 9.8 t/CO2; in India from 0.8 to 1.2 t/CO2; in Brasil from 1.4 to 1.8 t/CO2 (UNDP 2007: 14).

[7] Poverty is measured against the 2 dollars a day benchmark. In China this includes 452 million people, in India, 868 million (ADB 2008).

need for low-carbon development and climate-resilient economies high on governments' agendas (UNDP 2007 ; UNDP 2009).

The combination of a global financial crisis with a renewed concern for dangerous climate change, have led to unprecedented interest in re-opening the discussion on the relationship between development (more often economic growth) and the environment (or biosphere). Many government leaders and international organisations agree that the financial crisis should not go to waste, but rather provide the opportunity to realise economic recovery by responding to climate change and environmental challenges (Stiglitz 2009). In the case of China, it is trying to use this opportunity to accelerate rebalancing the structure of the economy:

> *"BEIJING, Mar. 7, 2010 (Xinhua News Agency) -- Premier Wen Jiabao has said in his government report given on Friday that the nation* ***backs development on low-carbon technology and fostering low-carbon-related industries and consumption****. Deputies of the National People's Congress (NPC) also eye the low-carbon lifestyle as an increasing part of Chinese people's mains stream way of life in future, saying that a low-carbon social management system is urgently needed while the government should advocate and support the campaign to promote such low-carbon lifestyle among its people to further strengthen the trend...*
>
> *The National Development and Reform Commission (NDRC) has confirmed the government would take concrete actions to develop a low-carbon economy, including* ***adding the low-carbon targets in the 12th Five-Year Plan for national economic development (2011-2015) to build an energy-saving, ecologically friendly society****… establishing relevant new social management mechanism to encourage the low-carbon lifestyle have become widely concerned.*
>
> *[NPC Deputies] believed that besides publicity of low-carbon concepts, other means such as tax leverage and government subsidies as well as economic incentives should also be considered to* ***encourage citizens' low-carbon way of life*** *and relevant innovations."* emphasis added (Xinhua 2010 see also: Hu 2009)

Taking a broader environmental sustainability perspective, the current setting provides an opportunity to review the overall concept of development, since: '[e]ven if China's economic structure changes in the future (with less emphasis on resource-intensive manufacturing and exports) the current development trend is not sustainable' (World Bank 2009b: 8). Numerous studies and reports are forcibly making this point, especially in the light of the financial and ecological and climate crises that have dominated the news (see Box 1). Importantly, change is expected in industrialised as well as developing nations. In this debate, progress towards a low-carbon economy (LCE, see Box 2) is one theme that is receiving great attention, and is the focus of our two IAIA Geneva sessions.

Box 1 Rethinking our future

The following studies are a selection from the last two years alone:

- Flipo, F. and Schneider, F. (2008) Proceedings of the First International Conference on Economic De-Growth for Ecological Sustainability and Social Equity. http://www.growthintransition.eu/wp-content/uploads/2008_degrowth-conference-proceedings.pdf (accessed:22/2/10), Paris, 18-19 April 2008.
- Glenn, J. C., Gordon, T. J. and Florescu, E. (2009) *State of the Future. Executive Summary,* The Millennium Project, Washington D.C., www.millennium-project.org/millennium/SOF2009-English.pdf (accessed: 7/8/09).
- Jackson, T. (2009) *Prosperity without growth? The transition to a sustainable economy,* Sustainable Development Commission, http://www.sd-commission.org.uk/publications.php?id=914 (accessed: 20/3/09).
- Skidelsky, R. (2009) *Keynes: The Return of the Master,* Penguin Books Ltd, London.
- Spratt, S., Ryan-Collins, J., Neitzert, E. and Simms, A. (2009) *The Great Transition - A tale of how it turned out right,* new economics foundation (nef), London, http://www.neweconomics.org/publications/the-great-transition (accessed: 17/11/09).
- Stiglitz, J., Sen, A. and Fitoussi, J.-P. (2009) *Report by the Commission on the Measurement of Economic Performance and Social Progress,* Commission on the Measurement of Economic Performance and Social Progress, Paris, http://www.stiglitz-sen-fitoussi.fr/en/index.htm (accessed: 16/9/09).
- UNEP (2009) *Global Green New Deal - Policy Brief*, March 2009, United Nations Environment Programme as part of its Green Economy Initiative, http://unep.org/pdf/A_Global_Green_New_Deal_Policy_Brief.pdf (accessed: 20/1/10).
- Victor, P. A. (2008) *Managing Without Growth. Slower By Design, Not Disaster,* Edward Elgar Publishing.
- Vuuren, D. v. and Faber, A. (2009) *Growing Within Limits. A Report to the Global Assembly 2009 of the Club of Rome,* Netherlands Environmental Assessment Agency (PBL), Bilthoven, NL.

Box 2 Elements of a Low-Carbon Economy

The concept of low-carbon economy (LCE) is becoming increasingly common currency around the world, although no universally accepted definition is available. In response to the challenge of responding to climate change and reducing GHG emissions through a process of decarbonisation, many nations are defining LCE according to their own social and environmental situations. The UK first proposed the term LCE in its Energy White Paper (DTI, 2003), which adopted LCE as a means to reduce GHG emissions and achieve energy security across all sectors of society (and subsequently updated: DTI 2007; CCC 2008).

Generally speaking, LCE is meant to minimize the artificial export of carbon to the natural environment in order to tackle climate change. It seeks to reduce the carbon ratio in energy production and consumption.

Nevertheless, LCE is not just about lowering carbon emissions and improving energy efficiency. A low-carbon economy attempts to achieve sustainable social and economic development that complies with the concept of low-carbonization, promoting consideration for consequences in terms of social well-being, employment, health, economic growth/cost. Implicit in adopting a low-carbon economy is that early action on climate change can mitigate the extreme negative impacts of climate change whilst reducing the economic, social and environmental costs of inaction or delay. The goal is closely related to the principle of a 'green economy': not to sacrifice social and economic development but to generate a low carbon economy that balances the pursuit of LCE measures with social-economic development at an affordable cost, creating more social and economic development opportunities from newly-

established low-carbon industries.

Low carbon technology development and the carbon market are often regarded as the primary accelerator to implement LCE, whereas low carbon education and social awareness are becoming the driving forces that lead to the implementation of LCE. Usually LCE relates to a number of components – including production and consumption (and lifestyles) as well as allocation of resources, industry, and technology – and follows a number of principles:

- All waste should be minimised - reduce, reuse, recycle
- Energy should be produced using low carbon energy sources & methods - renewable & alternative energy sources, fuels & sequestration
- All resources (in particular energy) should be used efficiently - more efficient energy conversion devices, combined heat & power
- Wherever practical, local needs should be served by local production - food, materials, energy
- There is high awareness and compliance with environmental and social responsibility initiatives amongst industry, commerce and individuals (and we would include here in terms of optimising trade and logistics) (http://www.lowcarboneconomy.com/LCE/AboutALowCarbonEconomy)

Three issues for reflection and discussion

LCE and related agendas – an initial overview - Issue 1

"the relationship between the Low Carbon Economy agenda and the broader themes of combating climate change, promoting a green economy, circular economy, environmentally sustainable development and last but not least protecting ecosystems services"

The primary focus of any given policy agenda is usually summarised in the short title adopted to designate it and promote it. Such designations obviously vary over time, reflecting the evolution of policy priorities, and across countries and regions of the world, reflecting their different policy perspectives. One must however recognise that different designations do not always reflect substantial differences in the actual contents of the policy priorities they are meant to illustrate.
This is particularly true when policy agendas are complex, encompassing multiple objectives: different designations can then be adopted to emphasise one or the other of the policy objectives, without however entailing substantial differences in the overall aims and policy priorities.

The diagram hereafter is meant to stimulate a discussion on the actual substance behind the most commonly used designations (short titles), and to hopefully achieve some degree of consensus on their actual differences (and notably on the "added value" of LCE with respect to other concepts), therefore feeding into the subsequent discussion on the differentiated role that SEA can play to promote the corresponding policy agendas.

In particular, the discussion should lead to a characterisation of each policy agenda in terms of

- ✓ its **breadth**, or scope (i.e. multiplicity of objectives and range of expected impacts)
- ✓ its **depth**, or focus (i.e. effectiveness in achieving specific impacts)

To guide the process, seven (alternative?) policy agendas have been identified (the columns of the table), and a short narrative is proposed to define their respective primary focus (e.g. LCE => reducing carbon contents of the economy, etc.)
A range of (13) impacts is then listed (the rows of the table), and each policy agenda is tentatively "graded" in terms of its expected relevance for each of the impacts.

Based on the (subjective) grades assigned[8], it appears that:

- ✓ *Green Economy (GE)* achieves the highest overall score in terms of potential impacts (reflecting both a broad scope and ambitious levels of expected impacts), followed by *Sustainable Development (SD)* and *Fighting Climate Change (FCC)*
- ✓ *Low Carbon Economy (LCE)* performs better than most other options in terms of *security of energy supply* and *long term sustainability*, but suffers from the lack of an explicit emphasis on social (including poverty alleviation) and economic goals, thus achieving a relatively modest overall score
- ✓ *Reducing the consumption of fossil fuels* is the common, explicit target of most policy agendas considered here. Not surprisingly, it is closely followed by *reducing GHG emissions*
- ✓ Impacts that are poorly represented in the explicit designations adopted for most policy agendas primarily fall in the *social dimension of sustainability*, but also point at environmental concerns that are yet insufficiently explored, such as e.g. those associated to the performance of *ecosystem services*

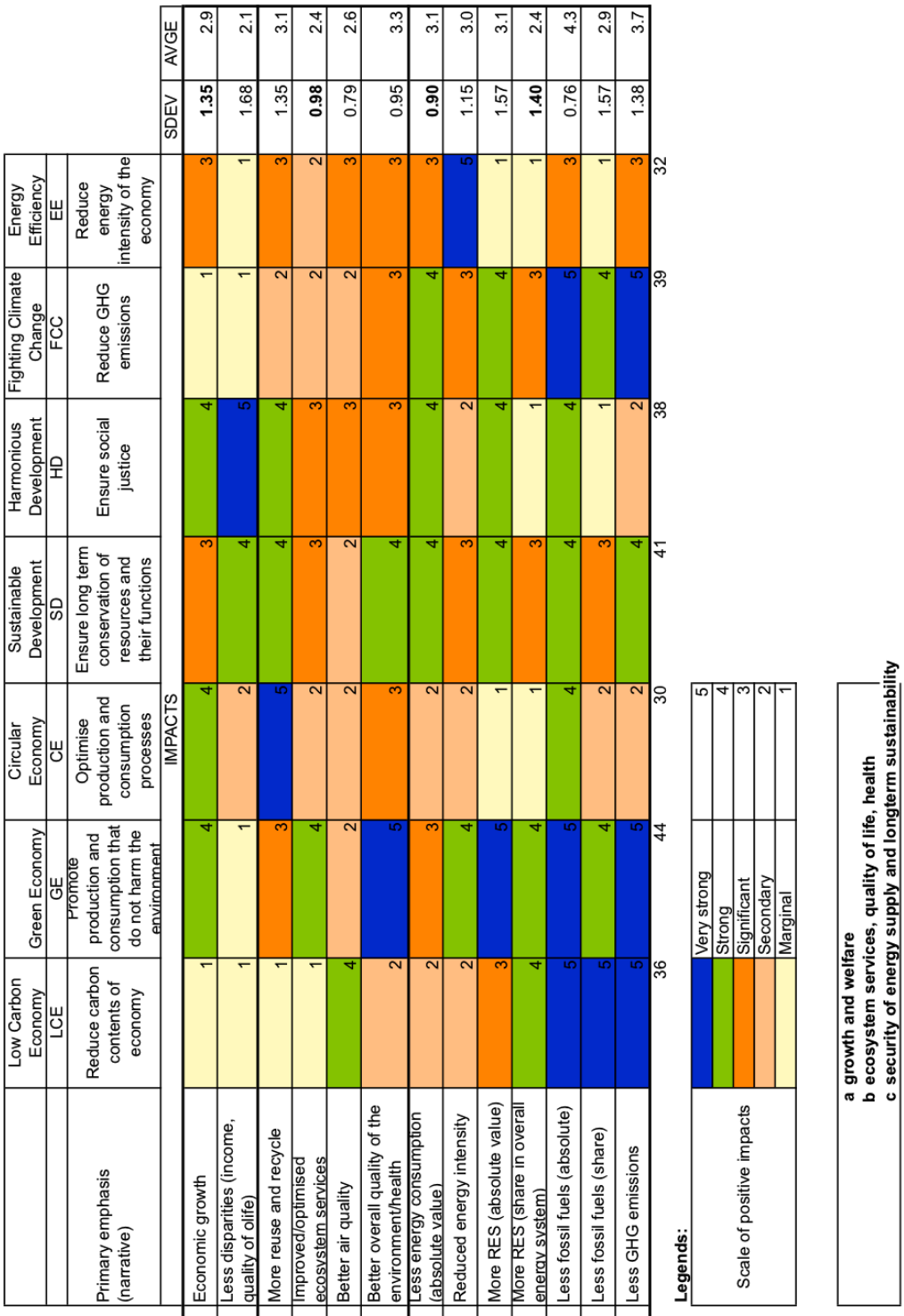
Questions that could be discussed at the IAIA session include:

- ✓ Is the proposed representation of policy agendas and impacts clear and exhaustive enough to stimulate the desired debate?
- ✓ Is the proposed scoring system acceptable?
- ✓ Is LCE introducing truly innovative features with respect to other mainstream policy agendas?
- ✓ Are there policy agendas that are clearly superior to others, and does this reflect their wider scope, or/and their higher effectiveness in addressing specific impacts and policy priorities?
- ✓ Should we be concerned about the risks arising from single-issue focus? If so, how should the IA community discuss and advance the LCE agenda?

[8] Column totals provide a measure of the overall performance of each policy agenda; the AVGE indicator, combined with the SDEV indicator (at Row level) provide a measure of how often the corresponding impact is explicitly targeted in the various policy agendas.

Figure 1 Comparing LCE and related policy agendas, exploring their contribution to current primary narratives

NOT TO BE QUOTED – this is just for illustration purposes



The link with assessment - Issue 2

"the case (pros and cons) of introducing the Low Carbon Economy agenda within the remit of SEA-type evaluations and initial reflections on challenges".

The recent report by UNDP (2009) emphasises that '50% to 80% of GHG emissions are influenced by local behaviour and investment choices' and points to a need for a quick and 'dramatic shift in… investments from fossil fuels to more sustainable climate-friendly alternatives', for an integrated approach that looks also at adaptation and the long-term (the elusive key to more sustainable futures). It also warns that 'public authorities may have limited technical and financial capacity' to address this challenge. For these reasons, and given that every year local governments take major decisions in terms of the nature and location of infrastructure that entail decades of lock-in, it seems essential to see how SEA can be made to contribute.

- Is SEA to play a fundamental role in **policy transfer** (to transfer information about how to promote – in this case LCE – rather than how to avoid? (echo of the old debate about positive and negative impacts, but not quite the same)

Amongst the many issues worth exploring is the setting of system boundaries and type of emissions that should be central to LCE and related agendas. SEA is meant to scope and assess all-important impacts associated with a PPP but too often SEA has been limited to the analysis of direct emissions – not including the indirect emissions caused by changes at a different location or time (e.g. GHG emissions caused by deforestation triggered by an increase in land to bio fuel production for vehicle use; or lower GHG emissions caused by aluminium production in Greenland in stead of the 0 alternative which is marginal aluminium production in China). However, this delimitation raises an important discussion about boundary issues (see also next section on methods) (Kørnøv, personal comment, 3/3/10):

- Are current assessments and decision-supporting processes on LCE and related interventions on **behavioural change** of public and private institutions (as well as individual citizens) too narrow?
- Are they **lacking information** on the indirect so-called scope 2 and 3 emissions (see box 3), and is this a serious problem?
- Can (should) SEA be used to consider modern and **complex trade related carbon emissions,** calculated and used in a proactive national and municipal policy making for LCE?

Box 3 Emission scope: direct, indirect

- Scope 1 emissions are the direct emissions taking place within the geographical boundary of e.g. a city or region.
- Scope 2 emissions are the indirect emissions related to production and purchase of energy (emissions not taking place within the geographical boundary of e.g. the city or region).
- Scope 3 emissions are the emissions not covered by scope 1 and 2, i.e. upstream emissions related to extraction of material and purchase goods; and downstream emissions related to waste treatment and recycling. In many cases scope 3 emissions are more important than scope 1 and 2. These flow of scope 3 emissions through international trade flows therefore has the ability to undermine environmental policies, and a justifiable account must reflect the society life style and encounter for the indirect energy flow and carbon emissions.

(Kørnøv, personal comment, 3/3/10 – based upon The GHG Protocol)

The ramifications of LCE extend well beyond the energy and environmental realm, calling for assessments that capture the intersectoral nature of the underlying policies (industry, health, trade etc.), prompting questions that could be discussed at our IAIA sessions:

- Of all the families of (environmental) assessment approaches, why should SEA be the most appropriate to facilitate the transition towards LCE?
- Is the explicit reference to the environmental dimension of SEA a limitation or a strength?
- Should we consider including elements of Integrated Assessment as a means to ensure the desired multidisciplinary and multisectoral nature of LCE policies?
- Should LCE agendas be strongly linked to ecosystem resilience and ecosystem service policies?
- How do we ensure that experts, stakeholders and decision-makers take long-term perspectives? (especially in relation to the lock-in effect of energy-intensive development and infrastructure initiatives, and the issue of accounting for indirect emissions).
- How important should the social (including poverty alleviation), health and ecological dimensions be, and is SEA equipped to deal with them?

Implications for assessment - Issue 3

"the kind of changes and/or additions that need to be considered for SEA-type assessments to promote LCE".

SEA provides a useful mechanism for mainstreaming environmental and sustainability considerations into regional and sectoral development plans. The objective of SEA is to incorporate social and environmental implications into programs, plans and policies so as to 'mitigate negative implications and maximize potential positive synergies' (World Bank 2006).

Although many weaknesses still undermine the effectiveness of SEA-type assessments in China and more widely around the world, there is also an increasing understanding of what can make SEA a strong ally in the pursuit of environmental governance and the mainstreaming of environmental policies (Bina *et al.* 2009 ; World Bank 2005). A recent overview of practice in Asia found that China still uses 'SEA mainly as an environmental safeguard check of already drafted sector plans before their submission to decision-making' but is fast adapting to more pro-active interpretations of SEA's role during the actual elaboration of these plans (Dusîk and Xie 2009: 8). If SEA-type processes are to facilitate the promotion of LCE and related policy agendas, the potential of assessment to 'maximise potential' will need strengthening throughout Asian countries (and, many would argue, beyond).

Assessment can be conceived and designed in order to provide constructive advice to planning authorities, and promote institutional learning. It is therefore essential to reinforce our understanding and capacity to harness mechanisms such as SEA towards new challenges, and opportunities, including environmentally sustainable development, with a focus on low-carbon development and climate-resilient economies, promotion of energy efficiency, clean and renewable energy sources, and the need to protect the poorest members of society from the impacts of climate

change need to protect the poorest members of society from the impacts of climate change (Baer *et al.* 2008 ; Prins *et al.* 2009).

Propositions for discussion include (by no means an exhaustive list):

An adequate consideration of LCE objectives requires:

- Special attention in the definition of scale and boundaries (both geophysical, time and thematic/sectoral);
- The support of and access to a range of authorities directly and indirectly involved with the production and use of energy;
- The support of a multi-disciplinary and multi-stakeholder team (including: energy, ecology, economics/poverty alleviation and social experts, as well as stakeholders/users given the importance of behavioural change in LCE agendas);
- Special attention in the choice of methods and tools to tackle the boundary setting: Life Cycle Analysis and carbon footprint are likely to be essential.

How important are these propositions? How likely are they to be implemented on the ground today?

The double session at the 30th IAIA Meeting

The forthcoming 30th Annual Meeting of the International Association for Impact Assessment (6-11 April 2010, Geneva, Switzerland) organised by the UNEP Economics and Trade Branch, represents an ideal venue to explore the potential contribution of strategic environmental assessment (SEA) towards the advancement of these agendas. Our proposal is to design a double session to look at the potential of SEA to address some of the specific challenges faced by Asian developing countries, and in particular, its ability to facilitate a transition towards low carbon economies (LCE) and environmentally sustainable development (UNEP *et al.* 2008).

Aim and objectives

To organise a double session in the shape of a workshop, as part of the forthcoming 30th IAIA (Geneva) to explore the potential of SEA in facilitating a transition towards Low Carbon Economies (LCE) in Asian developing countries, and contribute towards environmentally sustainable development and the avoidance of dangerous climate change.

Objectives:

- Explore ways to harness SEA-type assessments towards the goal of promoting LCE and green economies in Asia
- Identify key issues in terms of process and method
- Identify relevant experience and practice
- Discuss priorities for action and collaboration in order to facilitate the promotion of SEA for LCE and green economies.

The first session is a targeted preparatory workshop (10th April, 11 am), and a second session (10th April, 2:30 pm) entailing brief presentations summarising the conclusions of each discussion group, followed by open discussion.

The preparatory session entails detailed discussions rather than a presentations-based event. Small groups of invited experts will focus on a specific theme and report back at the 2:30 pm session.

Expected results

- A series of recommendations on how to develop and maximise SEA's contribution towards LCE and environmentally sustainable development in Asia, aimed at experts, organisations and government agencies, and
- The inauguration of a network of IAIA interested parties who can use the web-based platform of CSEAC (below) to continue the dialogue, exchange information, material and draw upon each other's expertise to solve arising challenges in day-to-day practice.

Core organisers

The Centre of Strategic Environmental Assessment for China (Chinese University of Hong Kong), in collaboration with the Institute of Studies for the Integration of Systems (ISIS, Italy) and the Centre for Strategic Environmental Assessment (Nankai University, PRC) will be the core organisers of the session, in agreement and collaboration with IAIA and UNEP.

Proposal: three issues for discussion

Issue A)	*"The relationship between the Low Carbon Economy agenda and other agendas/themes"*
	What is the significance of Low Carbon Economy for the promotion of environmentally sustainable development? With reference to figure 1 (above) consider: • Is the proposed representation of policy agendas and impacts clear and exhaustive enough to stimulate the desired debate? • Is the proposed scoring system acceptable? • Is LCE introducing truly innovative features with respect to other mainstream policy agendas? • Are there policy agendas that are clearly superior to others, and does this reflect their wider scope, or/and their higher effectiveness in addressing specific impacts and policy priorities? • Should we be concerned about the risks arising from single-issue focus? If so, how should the IA community discuss and advance the LCE agenda?
Issue B)	*"The case (pros and cons) of introducing the Low Carbon Economy agenda within the remit of SEA-type evaluations and initial reflections on challenges"*
	On opportunities and challenges: • Can SEA contribute to clarifying/streamlining the LCE concept? • Of all the families of (environmental) assessment approaches, why should SEA be the most appropriate to facilitate the transition towards LCE? • Is the explicit reference to the environmental dimension of SEA a limitation or a strength? • Should we consider including elements of Integrated Assessment as a means to ensure the desired multidisciplinary and multisectoral nature of LCE

	policies? • Should LCE agendas be strongly linked to ecosystem resilience and ecosystem service policies? • How do we ensure that experts, stakeholders and decision-makers take long-term perspectives? (especially in relation to the lock-in effect of energy-intensive development and infrastructure initiatives, and the issue of accounting for indirect emissions). • What level (tier) of planning is most relevant? (policy or planning; national or regional/local?) • What will this imply for SEA practitioners? (skills, training, process) • How important should the social (including poverty alleviation), health and ecological dimensions be, and is SEA equipped to deal with them? **On scale and scope:** • Are current assessments and decision-supporting processes on LCE and related interventions on **behavioural change** of public and private institutions (as well as individual citizens) too narrow? • Are they **lacking information** on the so-called scope 2 and 3 emissions (see box 3), and is this a serious problem? • Can (should) SEA be used to consider modern and **complex trade related carbon emissions,** calculated and used in a proactive national and municipal policy making for LCE?
Issue C1)	*"The kind of changes and/or additions that need to be considered for SEA-type assessments to promote LCE"*
	SEA applied to land use and transport policies and plans: **Propositions** for discussion include (by no means an exhaustive list): An adequate consideration of LCE objectives requires: • Special attention in the definition of scale and boundaries (both geophysical and thematic/sectoral); • The support of and access to a range of authorities directly and indirectly involved with the production and use of energy; • The support of a multi-disciplinary and multi-stakeholder team (including: energy, ecology, economics/poverty alleviation and social experts, as well as stakeholders/users given the importance of behavioural change in LCE agendas); • Special attention in the choice of methods and tools: Life Cycle Analysis and carbon footprint are likely to be essential. How important are these propositions? How likely are they to be implemented on the ground today in relation to land-use ad transport planning/policy-making? **Process**: In order to contribute to the integration of LCE objectives into these sectoral PPPs: ○ Timing of the SEA – and how to get there early enough; ○ Process implications: for example, does this change who should be in charge of assessment? ○ How can SEA contribute to ensure a more active and comprehensive involvement of the private sector and stakeholders in this process? **Methods**: What specific methods (tools, techniques) would be needed? ○ What basic data? What kind of key performance indicators? ○ How to define and measure the carbon emission intensity in the SEA

	process? How to assess low carbon activities? ○ How to assist planners in considering LCE (clean technologies), climate change mitigation/adaptation and ecosystem services priorities? ○ Should elements of cost-effectiveness and integrated assessment be included in SEA approaches?
Issue C2)	*"The kind of changes and/or additions that need to be considered for SEA-type assessments to promote LCE"*
	SEA applied to Urbanisation and livable cities - sectoral policies and plans **Propositions** for discussion include (by no means an exhaustive list): An adequate consideration of LCE objectives requires: • Special attention in the definition of scale and boundaries (both geophysical and thematic/sectoral); • The support of and access to a range of authorities directly and indirectly involved with the production and use of energy; • The support of a multi-disciplinary and multi-stakeholder team (including: energy, ecology, economics/poverty alleviation and social experts, as well as stakeholders/users given the importance of behavioural change in LCE agendas); • Special attention in the choice of methods and tools: Life Cycle Analysis and carbon footprint are likely to be essential. How important are these propositions? How likely are they to be implemented on the ground today in relation to urban planning/policy-making? **Process**: In order to contribute to the integration of LCE objectives into these sectoral PPPs ○ Timing of the SEA – and how to get there early enough; ○ Process implications: for example, does this change who should be in charge of assessment? ○ How can SEA contribute to ensure a more active and comprehensive involvement of the private sector and stakeholders in this process? **Methods**: What specific methods (tools, techniques) would be needed? ○ What basic data? What kind of key performance indicators? ○ How to define and measure the carbon emission intensity in the SEA process? How to assess low carbon activities? ○ How to assist planners in considering LCE (clean technologies), climate change mitigation/adaptation and ecosystem services priorities? ○ Should elements of cost-effectiveness and integrated assessment be included in SEA approaches?

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